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NOTICE OF ALLOWANCE AND FEE(S) DUE

04/08/2003

BIRCH STEWART KULASCH & BIRCH
P O BOX 747
FALL CHURCH, VA 22040-0747

Docketed *ES*
7.8.03
Issue Fee

EXAMINER

NEYZARI, ALI

ART UNIT

CLASS-SUBCLASS

2655

369-275300

DATE MAILED: 04/08/2003

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/055,240	04/06/1998	WOON-SEONG YEO	0937-0120P	3654

TITLE OF INVENTION: OPTICAL DISC HAVING VARIABLE SPARE AREA RATES AND METHOD FOR VARIABLY SETTING THE RATE OF SPARE AREAS IN THE OPTICAL DISC

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1300	\$0	\$1300	07/08/2003

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.
- B. If the status is changed, pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above and notify the United States Patent and Trademark Office of the change in status, or

If the SMALL ENTITY is shown as NO:

- A. Pay TOTAL FEE(S) DUE shown above, or
- B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check the box below and enclose the PUBLICATION FEE and 1/2 the ISSUE FEE shown above.
- ☐ Applicant claims SMALL ENTITY status.
See 37 CFR 1.27.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.



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09/055,240	04/06/1998	WOON-SEONG YEO	0937-0120P	3654

7590 04/08/2003

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EXAMINER

NEYZARI, ALI

ART UNIT PAPER NUMBER

2655

DATE MAILED: 04/08/2003

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Determination of Patent Term Extension under 35 U.S.C. 154 (b)
(application filed after June 7, 1995 but prior to May 29, 2000)

The patent term extension is 601 days. Any patent to issue from the above identified application will include an indication of the 601 day extension on the front page.

If a continued prosecution application (CPA) was filed in the above-identified application, the filing date that determines patent term extension is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) system. (<http://pair.uspto.gov>)

Any questions regarding the patent term extension or adjustment determination should be directed to the Office of Patent Legal Administration at (703)305-1383.

12 SEP



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BIRCH STEWART KOLASCH & BIRCH P O BOX 747 FALL CHURCH, VA 22040-0747 UNITED STATES				
EXAMINER NEYZARI, ALI				
ART UNIT		PAPER NUMBER		
2655				
DATE MAILED: 04/08/2003				

Notice of Fee Increase on January 1, 2003

If a reply to a "Notice of Allowance and Fee(s) Due" is filed in the Office on or after January 1, 2003, then the amount due will be higher than that set forth in the "Notice of Allowance and Fee(s) Due" since there will be an increase in fees effective on January 1, 2003. See Revision of Patent and Trademark Fees for Fiscal Year 2003; Final Rule, 67 Fed. Reg. 70847, 70849 (November 27, 2002).

The current fee schedule is accessible from: <http://www.uspto.gov/main/howtofees.htm>.

If the issue fee paid is the amount shown on the "Notice of Allowance and Fee(s) Due," but not the correct amount in view of the fee increase, a "Notice to Pay Balance of Issue Fee" will be mailed to applicant. In order to avoid processing delays associated with mailing of a "Notice to Pay Balance of Issue Fee," if the response to the Notice of Allowance and Fee(s) due form is to be filed on or after January 1, 2003 (or mailed with a certificate of mailing on or after January 1, 2003), the issue fee paid should be the fee that is required at the time the fee is paid. If the issue fee was previously paid, and the response to the "Notice of Allowance and Fee(s) Due" includes a request to apply a previously-paid issue fee to the issue fee now due, then the difference between the issue fee amount at the time the response is filed and the previously paid issue fee should be paid. See Manual of Patent Examining Procedure, Section 1308.01 (Eighth Edition, August 2001).

Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

Notice of Allowabi.

09/055,240

Applicant(s)

Yeo

Examiner

Ali Neyzari

Art Unit

2655



--The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 3-27-2003
 2. ☒ The allowed claim(s) is/are 5, 6, and 33-51
 3. ☒ The drawings filed on Apr 22, 1999 are accepted by the Examiner.
 4. ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____
 5. ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - (a) ☐ The translation of the foreign language provisional application has been received.
 6. ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.
- Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**
7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 8. ☐ CORRECTED DRAWINGS must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment/Comment or in the Office action of Paper No. _____
 9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- 1 ☒ Notice of References Cited (PTO-892)
- 2 ☐ Notice of Informal Patent Application (PTO-152)
- 3 ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 4 ☒ Interview Summary (PTO-413), Paper No. 28
- 5 ☐ Information Disclosure Statement(s) (PTO-1449), Paper No(s). _____
- 6 ☒ Examiner's Amendment/Comment
- 7 ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- 8 ☐ Examiner's Statement of Reasons for Allowance
- 9 ☐ Other

Serial Number: 09/055,240

Art Unit: 2655



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EXAMINER'S AMENDMENT

36/1/1

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Chong Mrs Esther on 3-20-03 and Mr. Scott Lowe on 3-27-03

The application has been amended as follows:

- 1- Claims 33, 37, 38, 39, 43, 44, 45, 46 have been amended as follows.
- 2- New claims 47-51 have been added as follows.
- 3- Claims 5, 6, 34, 35, 36, 40, 41, 42 remains unchanged as follows

5. An optical disc comprising:

a main area storing digital data, said main area being divided into a plurality of zones; and

a spare area having an area within each of said zones of said main area,

wherein at least one area of said spare area varies in size relative to at least one other area of said spare area, wherein said optical disc is divided into 23 zones, and the rates of said spare areas are set such that zone 0 is to 10.73%, zone 1 is to 10.75%, zones 2 and 3 are to 8.06%, zones 4 and 5 are to 5.37%, zones 6 and 7 are to 2.68%, zones 8 to 12 are to 2.69%, zones 13 to 15 are to 2.68%, zones 16 and 17 are to 2.69%, zones 18 and 19 are to 5.37%, zone 20 is to 8.06%, zone 21 is to 8.05%, zone 22 is to 10.74%, and zone 23 is to 10.73%.

6. An optical disc comprising:

a main area storing digital data, said main area being divided into a plurality of zones; and

a spare area having an area within each of said zones of said main area,

wherein at least one area of said spare area varies in size relative to at least one other area of said spare area, wherein said optical disc is divided into 23 zones, and the rates of said spare areas are set such that

zone 0 is to 8.05%, zones 1 to 3 are to 8.06%, zones 4 and 5 are to 5.37%, zones 6 and 7 are to 2.68%, zones 8 to 12 are to 2.69%, zones 13 to 15 are to 2.68%, zones 16 to 18 are to 5.37%, zones 19 and 20 are to 8.05%, zones 21 and 22 are to 8.05%, and zone 23 is to 8.72%.

33. An optical disk, comprising:

a series of several main areas and arranged to store digital data;
and

a series of contiguous spare areas, each main area corresponding to a respective single one of the contiguous spare areas, a ratio between a size of each main area to a size of a corresponding contiguous spare area being varied, wherein the ratio of the size of the spare areas to the size of the corresponding main areas increases from a substantially central radial position on the disk toward at least one of an inner radial position on the disk and an outer radial position on the disk.

34. The optical disk of claim 33, wherein each of the contiguous spare areas is positioned adjacent to a corresponding one of the series of main areas.

35. The optical disk of claim 33, wherein the ratio between the size of a spare area and the size of a corresponding main area depends upon a thickness of the disk at the position of the main area.

36. The optical disk of claim 33, wherein the ratio between the size of a spare area and the size of a corresponding main area depends upon a radial position of the main area on the disk.

37. The optical disk of claim 33, wherein the ratio of the size of the spare areas to the size of the corresponding main areas increases from the substantially central radial position on the disk toward the [in an] inner radial position on [direction of] the disk.

38. The optical disk of claim 33, wherein the ratio of the size of the spare areas to the size of the corresponding main areas increases from the substantially central radial position on the disk toward the [in an] outer radial position on [direction of] the disk.

39. A method for setting spare areas of corresponding main zones of an optical disk, said method comprising:

configuring an optical disk with a series of several main areas structured and arranged to store digital data, each main area having a single contiguous spare area associated therewith; and

variably setting a ratio between a size of each contiguous spare area to a size of each main area associated therewith, wherein the ratio of the size of the spare areas to the size of the corresponding main areas

increases from a substantially central radial position on the disk toward at least one of an inner radial position on the disk and an outer radial position on the disk.

40. The method of claim 39, wherein each of the contiguous spare areas is positioned adjacent to a corresponding one of the series of main areas.

41. The method of claim 39, wherein the ratio between the size of a spare area and the size of a corresponding main area depends upon a thickness of the disk at the position of the main area.

42. The method of claim 39, wherein the ratio between the size of a spare area and the size of a corresponding main area depends upon a radial position of the main area on the disk.

43. The method of claim 39, wherein the ratio of the size of the spare areas to the size of the corresponding main areas increases from the substantially central radial position on the disk toward the [in an inner radial position on [direction of] the disk.

44. The method of claim 39, wherein the ratio of the size of the spare areas to the size of the corresponding main areas increases from

the substantially central radial position on the disk toward the [in an]
outer radial position on [direction of] the disk.

45. An optical disk, comprising:

a plurality of concentric zones, each zone including at least one main area for storing data and at least one spare area for storing data when the main area includes a defect, each zone having a spare area ratio equal to a ratio of a total size of spare [main] areas in the zone to a total size of main [spare] areas in the zone, [and the spare area ratios of at least two zones differing] wherein the spare area ratio increases from a substantially central radial position on the disk toward at least one of an inner radial position on the disk and an outer radial position on the disk.

46. The optical disk of claim 45 [46], wherein the spare area ratios of at least two adjacent zones differ.

Please add the following claims:

47. The optical disk of claim 33, wherein the ratio of the size of the spare areas to the size of the corresponding main areas increases from the substantially central radial position on the optical disk toward the inner radial position on the disk and toward the outer radial position on the disk.

48. The method of claim 39, wherein the ratio of the size of the spare areas to the size of the corresponding main areas increases from the substantially central radial position on the optical disk toward the inner radial position on the disk and toward the outer radial position on the disk.

49. The optical disk of claim 45, wherein the spare are ratio increases from the substantially central radial position on the disk toward the inner radial position on the disk.

50. The optical disk of claim 45, wherein the spare are ratio increases from the substantially central radial position on the disk toward the outer radial position on the disk.

51. The optical disk of claim 45, wherein the spare area ratio increases from the substantially central radial position on the optical disk toward the inner radial position on the disk and toward the outer radial position on the disk.

Art Unit: 2655

Allowable Subject Matter

Claims 5, 6, 33-51 are allowable over the prior art of record.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **ALI NEYZARI** whose telephone number is **703-308-4906**. The examiner can normally be reached on **MONDAY-THURSDAY** from **7:00 AM** to **5:30 PM**.

The Fax number for TC 2600 is **703-872-9314**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is **703-305-4700**.

Ali Neyzari
Primary Patent Examiner
Art Unit 2655
3-27-2003


ALI NEYZARI
PRIMARY EXAMINER



FEB 20 2003

Commissioner for Patents
Washington, DC 20231
www.uspto.gov


Dear Patent Business Customer:

The United States Patent and Trademark Office ("Office") is now permitting and encouraging applicants to voluntarily submit amendments in a revised format as set forth in *AMENDMENTS IN A REVISED FORMAT NOW PERMITTED*, Off. Gaz. Pat. Office (February 25, 2003), currently available on the USPTO web site at <http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/revamdtprac.htm>. The revised format permits amendments to the specification and claims to be made in a single marked-up version; the requirement for a clean version is eliminated. Attached, you will find a flyer with information and instructions regarding the procedures to be used to comply with the revised format. The flyers are being inserted with out-going Office actions mailed during the period of February 20, 2003 - March 31, 2003.

The revised amendment format is essentially the same as the amendment format for the specification, claims, and drawings that the Office is considering adopting via a revision to 37 CFR 1.121 (Manner of Making Amendments). The revision to 37 CFR 1.121 (if adopted) will simplify amendment submission and improve file management. This proposed revision and others necessary to facilitate a gradual transition to the use of an Electronic File Wrapper (EFW) will be set forth in a Notice of Proposed Rule making (NPR), expected to be published by March 2003. After consideration of public comments, the Office anticipates adopting a revision to § 1.121, following publication of a Notice of Final Rule making (NFR), expected by June 2003, at which point compliance with revised § 1.121 will be mandatory.

The Office will continue to accept your amendment submissions in the revised format during the voluntary period, which will extend up to the effective date of final revisions to § 1.121. The Office also encourages your feedback on the proposed revised amendment format and other changes set forth in the NPR, expected to be published by March 2003.

For assistance: Any questions regarding the submission of amendments pursuant to the revised practice should be directed to Office of Patent Legal Administration (OPLA), Legal Advisors Elizabeth Dougherty (Elizabeth.Dougherty@uspto.gov), Gena Jones (Eugenia.Jones@uspto.gov) or Joe Narcavage (Joseph.Narcavage@uspto.gov). Alternately, you may send e-mail to "Patent Practice", the OPLA e-mail address that has been established for receiving queries and questions about patent practice and procedures or telephone OPLA at (703) 305-1616.


Nicholas P. Godici
Commissioner for Patents

Attachment: Flyer entitled: *Revised Notice* AMENDMENTS MAY NOW BE SUBMITTED IN REVISED FORMAT*



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Dear Patent and Trademark Office Customer:

It is important to us that you are satisfied with the services we provide. Therefore, Technology Center 2600 would like to take this opportunity to tell you about one of our most successful customer service projects, our Customer Service Office (CSO), and to ask you for your help in expanding this project. Conventionally filed amendments and inquiries are received at the USPTO's central mail room and pass through numerous processing stages before they arrive in Technology Center 2600. Each processing stage adding inherent chances for mishandling and delay. To improve inquiry and amendment handling Technology Center 2600's Customer Service Office was established to directly receive and process faxed amendments and inquiries.

Over the last two years there has been a rapid growth in the volume of these faxes. In the first quarter of FY01, 1300 faxed amendments were received. In the first quarter of FY02, this increased to 1900 faxed amendments, and in the first quarter of FY03, there was an even greater increase to 3000 faxed amendments. Similarly, the number of status inquiries received by our CSO has steadily grown and in the first quarter of FY03, there were 2280 status inquiries. More importantly, as the number of amendments and inquiries has increased, the CSO processing time has decreased. Currently the average amendment processing time from receipt to case entry is well under 4 days. Filing through Technology Center 2600's CSO has proven to be a great improvement over the conventional method for both our customers and us. As an added benefit we can tell you that to date we have not experienced a single instance where an application had to be subsequently processed for the withdrawal of the holding of abandonment based upon a lost amendment submitted through this process. If you are already using the Technology Center 2600 CSO, we thank you. If you are not, please consider using our Customer Service Office and help us expand its success.

Amendments and Status Inquiries by Fax - 703-872-9314:

For After Final amendments, our goal is to have official faxes matched, entered and delivered to the SPE/examiner within 48 hrs from receipt. For all other official documents our goal is to have official faxes entered within 72 hours of receipt. *If we cannot match your fax with the case, we will call you to let you know the status.* Please use fax number 703-872-9314 for ALL Technology Center 2600 official communications.

Status Inquiries by Telephone - 703-306-0377:

The Technology Center 2600 Customer Service Office is open to serve you from 8:30am to 5pm EST. Our main telephone number is 703-306-0377. If you need information regarding your application, feel free to give us a call.

In order to assist you quicker, we ask that on the cover sheet, you indicate how many pages you're transmitting and a point of contact in case of any errors that might arise. If your fax machine is properly programmed with your heading and fax number, you will receive an automated receipt confirming reception of your fax. If you prefer to call and confirm receipt of your fax, a point of contact from our customer service office is provided below.

Thank you,
Arthur McCloud
Technology Center 2600 Customer Service Office